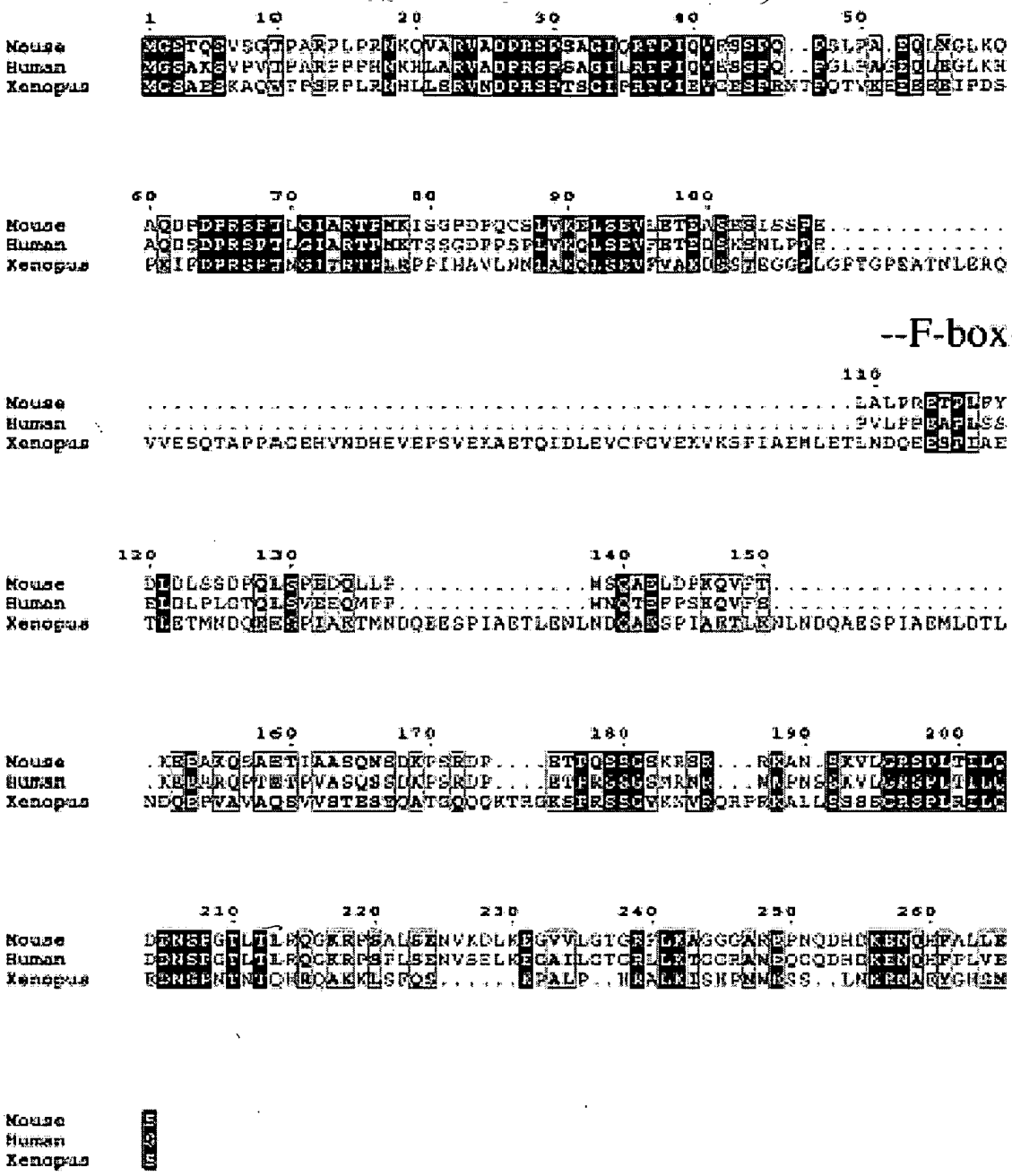
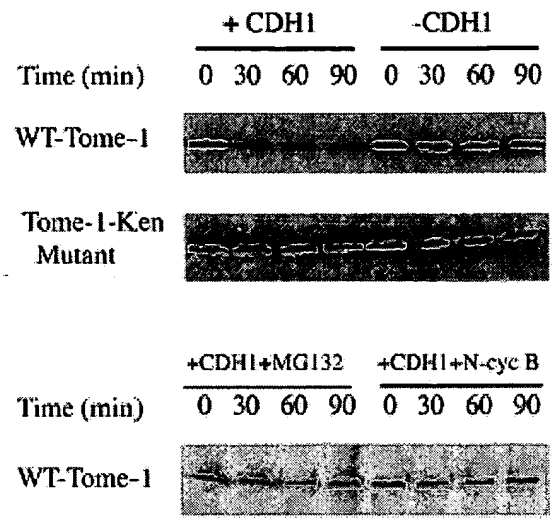


Figure 1

A


+ CDH1
-CDH1
Time (min)
0 30 60 90 0 30 60 90
WT-Tome-1
Tome-1-Ken Mutant
+CDH1+MG132
+CDH1+N-cyc B
Time (min)
0 30 60 90 0 30 60 90
WT-Tome-1

B

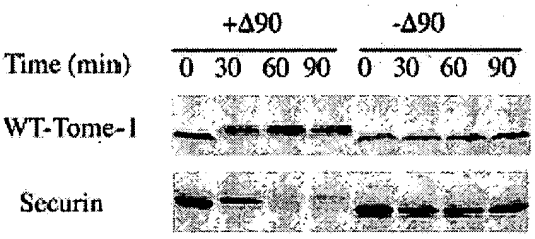
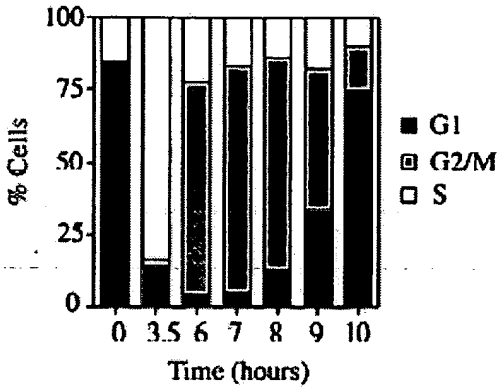

+Δ90
-Δ90
Time (min)
0 30 60 90 0 30 60 90
WT-Tome-1
Securin

Figure 2

A


100
75
50
25
0
% Cells
0 3.5 6 7 8 9 10
Time (hours)
G1
G2/M
S

B

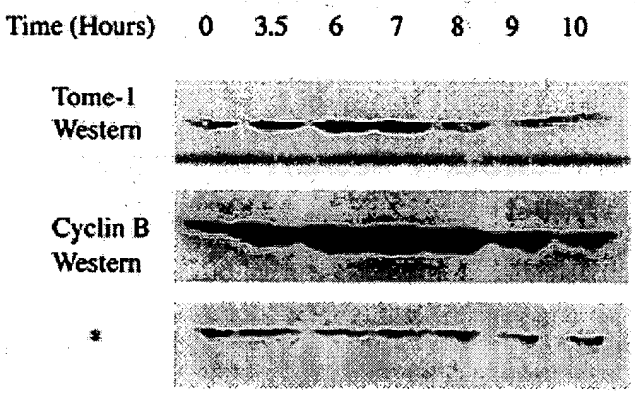
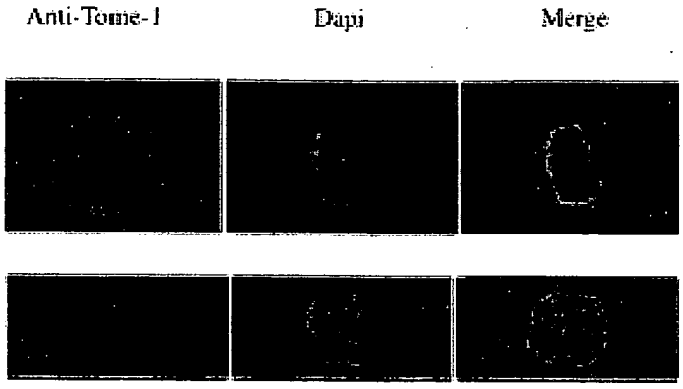

Time (Hours) 0 3.5 6 7 8 9 10
Tome-1 Western
Cyclin B Western
*

Figure 3

A



B

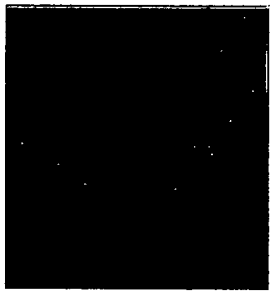
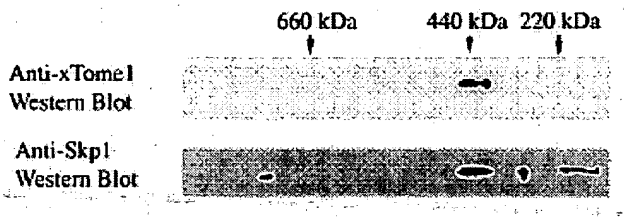


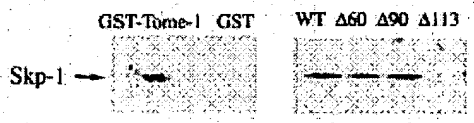
Figure 4

BEST AVAILABLE COPY

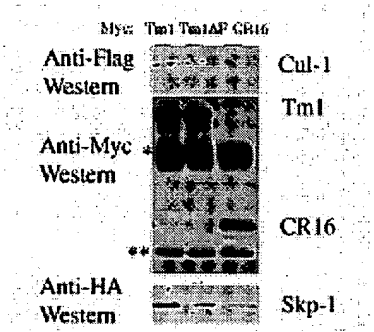
A



B



C



D

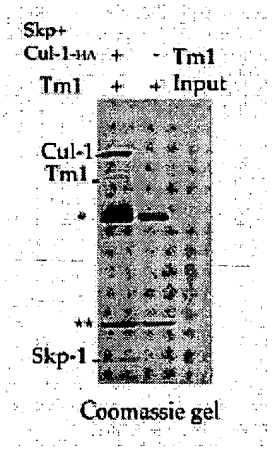
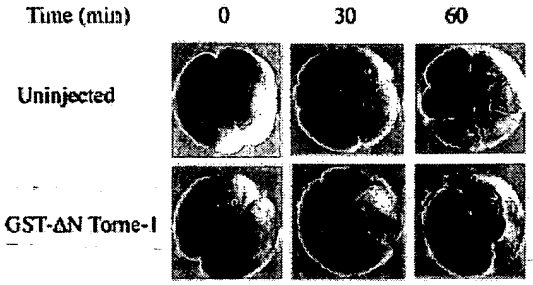
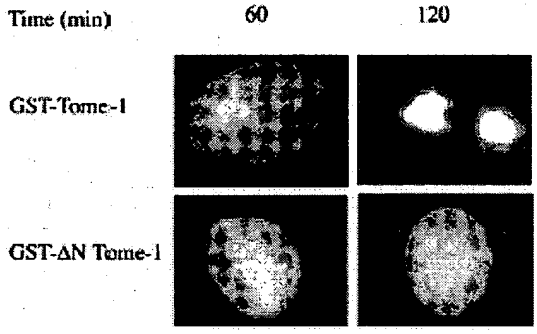


Figure 5

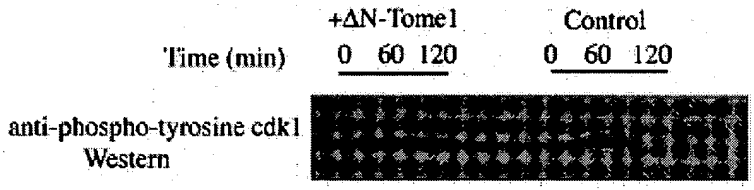
A



B



C



D

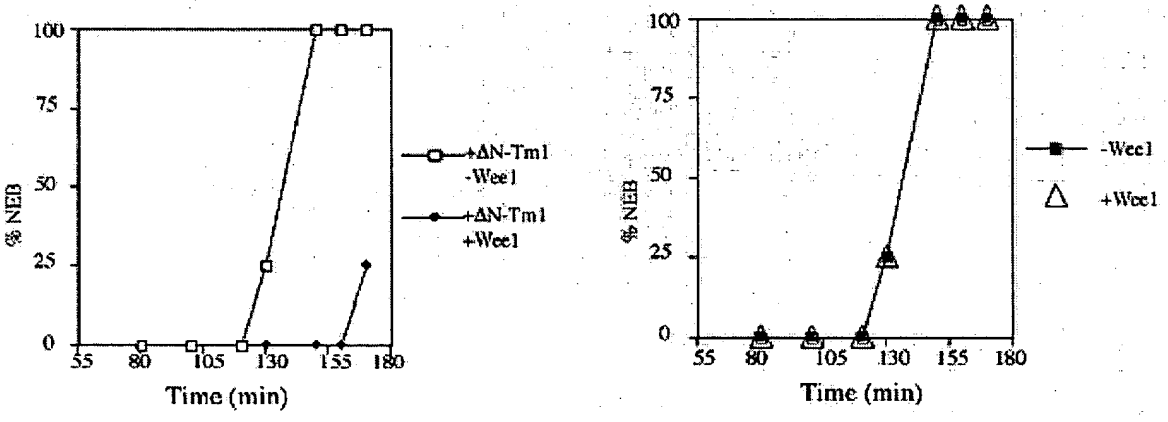
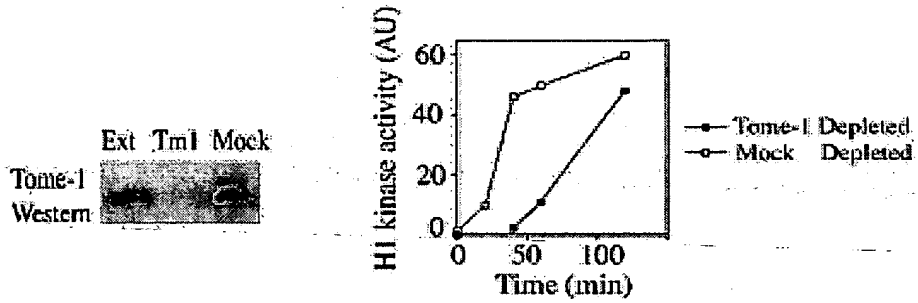
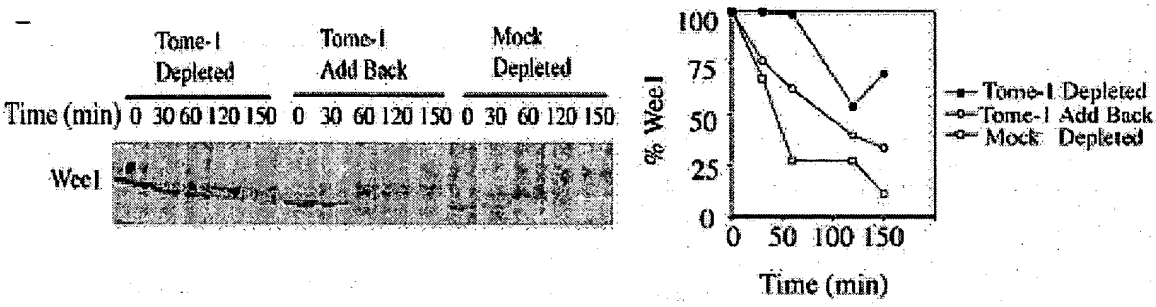


Figure 6

A


Ext Tm1 Mock
Tome-1
Western
H1 kinase activity (AU)
60
40
20
0
0 50 100
Time (min)
Tome-1 Depleted
Mock Depleted

B


Tome-1 Depleted
Tome-1 Add Back
Mock Depleted
Time (min) 0 30 60 120 150 0 30 60 120 150 0 30 60 120 150
Wee1
% Wee1
100
75
50
25
0
0 50 100 150
Time (min)
Tome-1 Depleted
Tome-1 Add Back
Mock Depleted

C

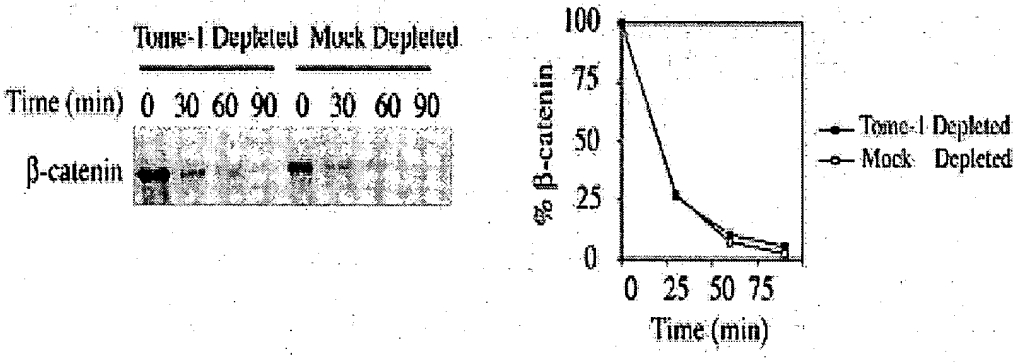

Tome-1 Depleted Mock Depleted
Time (min) 0 30 60 90 0 30 60 90
β-catenin
% β-catenin
100
75
50
25
0
0 25 50 75
Time (min)
Tome-1 Depleted
Mock Depleted

Figure 7

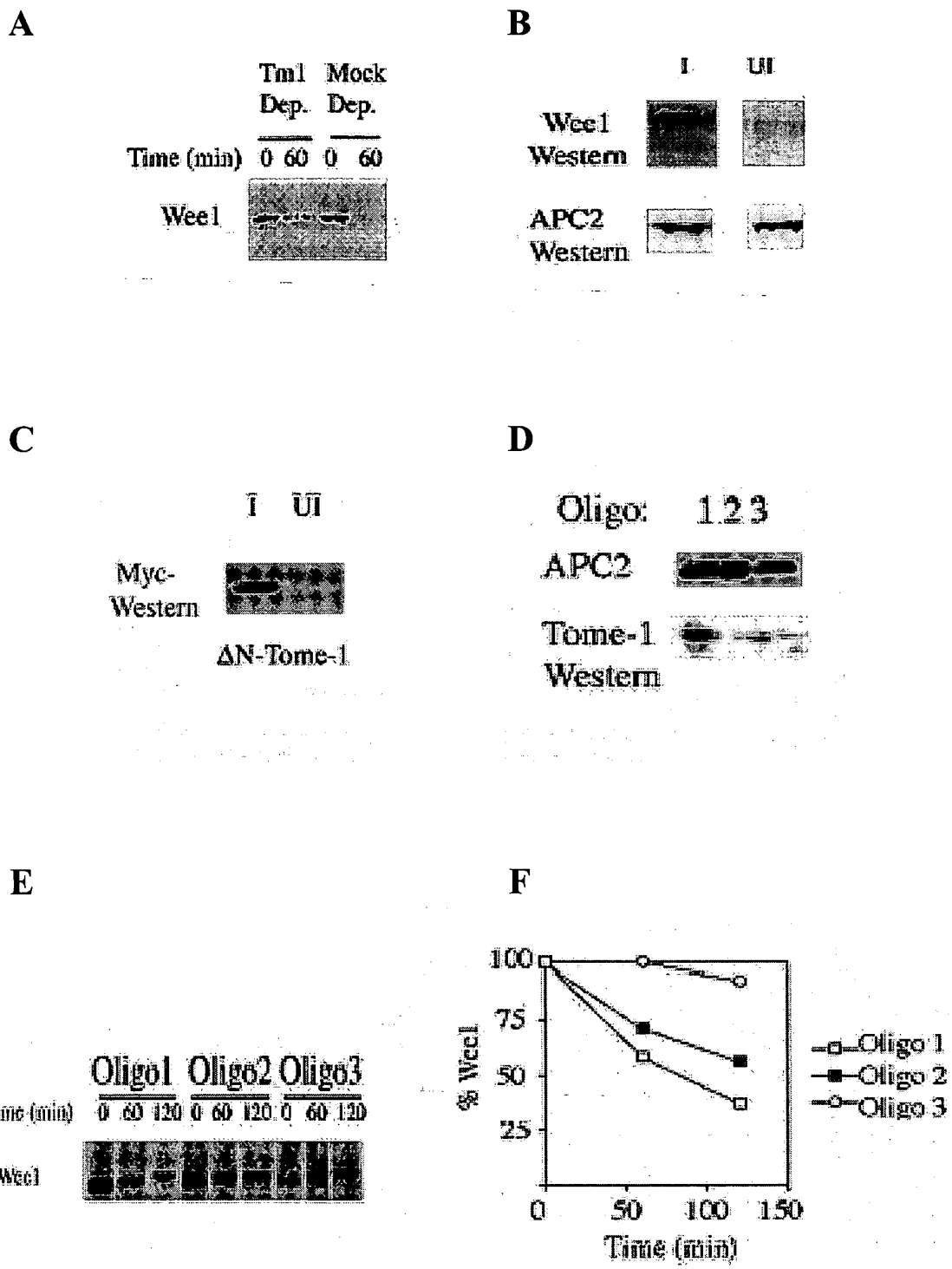

A
Tm1 Dep.
Mock Dep.
Time (min) 0 60 0 60
Wee1
B
I
UI
Wee1 Western
APC2 Western
C
I
UI
Myc-Western
ΔN-Tome-1
D
Oligo: 1 2 3
APC2
Tome-1 Western
E
Oligo1 Oligo2 Oligo3
Time (min) 0 60 120 0 60 120 0 60 120
Wee1
F
100
75
50
25
% Wee1
0
50
100
150
Time (min)
Oligo 1
Oligo 2
Oligo 3

Figure 8

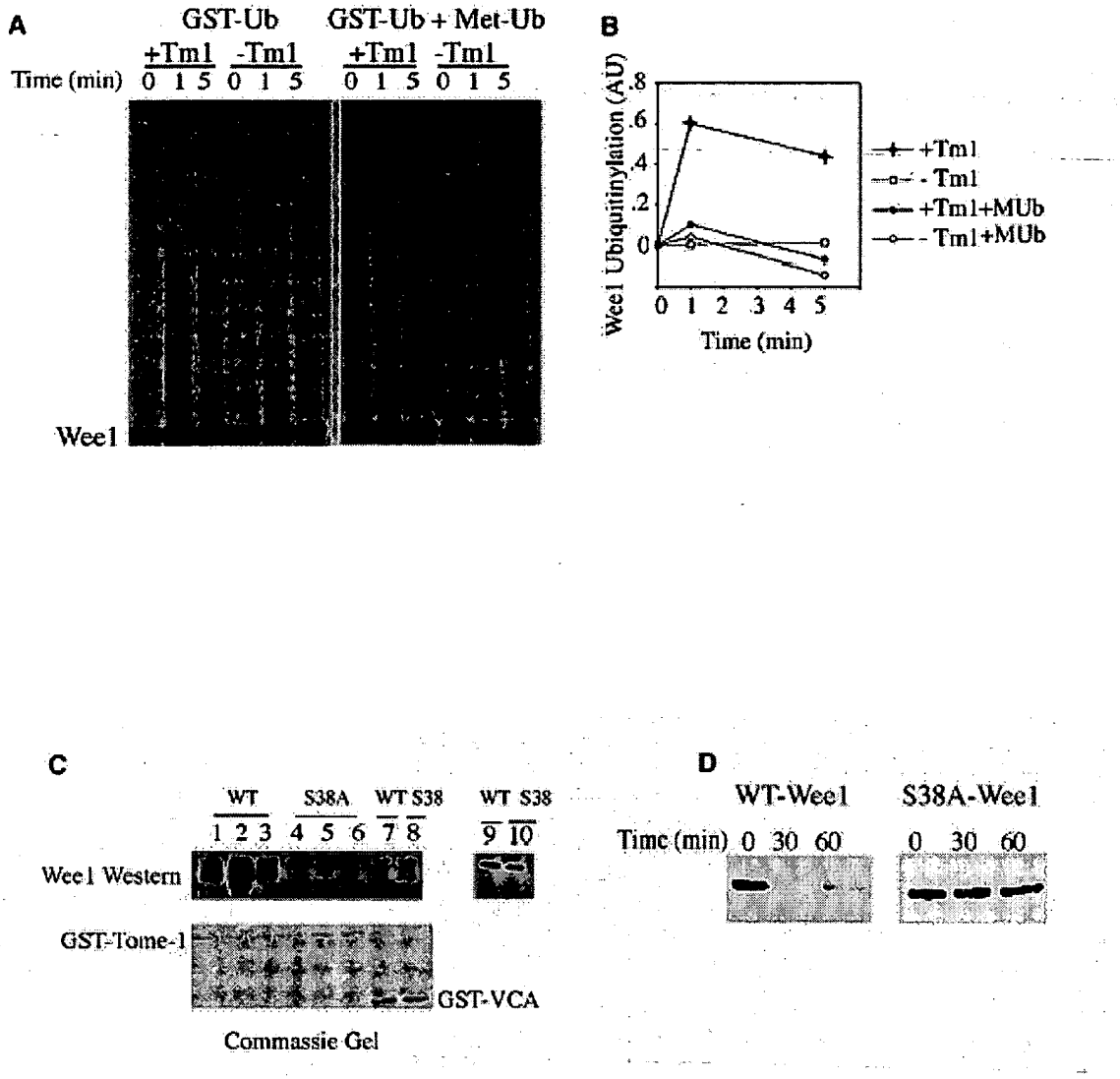
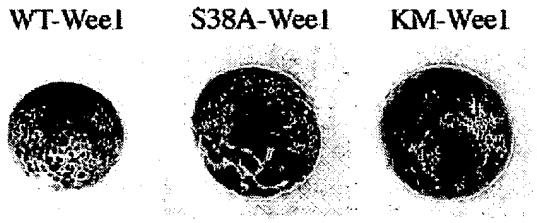
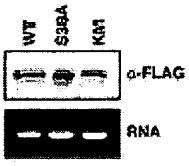

A
GST-Ub
GST-Ub + Met-Ub
+Tm1
-Tm1
+Tm1
-Tm1
Time (min)
0 1 5 0 1 5 0 1 5 0 1 5
Wee1
B
Wee1 Ubiquitinylation (AU)
.8
.6
.4
.2
0
0 1 2 3 4 5
Time (min)
+Tm1
- Tm1
+Tm1+MUb
- Tm1+MUb
C
WT
S38A
WT S38
WT S38
1 2 3 4 5 6 7 8
9 10
Wee1 Western
GST-Tome-1
GST-VCA
Commassie Gel
D
WT-Wee1
S38A-Wee1
Time (min) 0 30 60
0 30 60

Figure 9

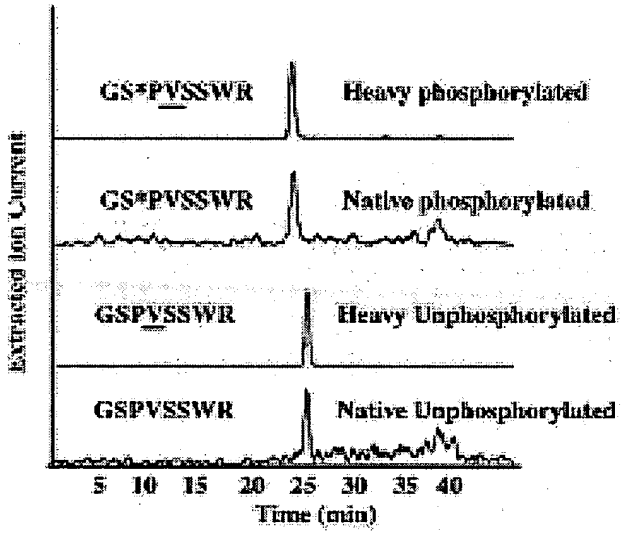
A



B



C



D

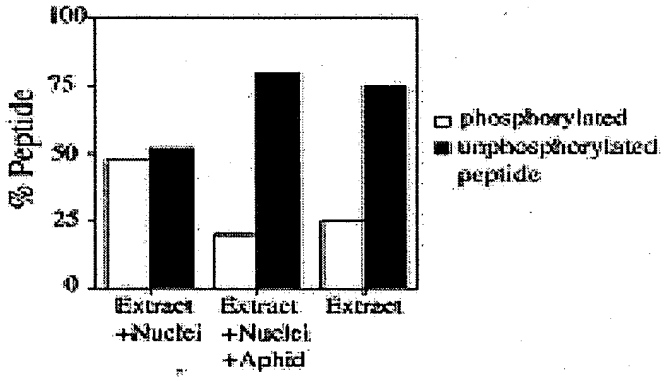


Figure 10

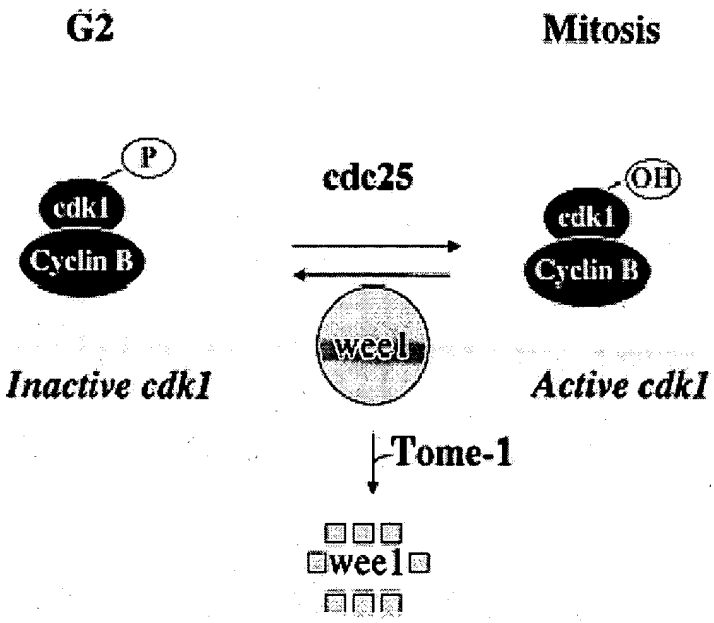

G2
Mitosis
P
cdk1
Cyclin B
cdc25
OH
cdk1
Cyclin B
wee1
Inactive cdk1
Active cdk1
Tome-1
wee1

Figure 11

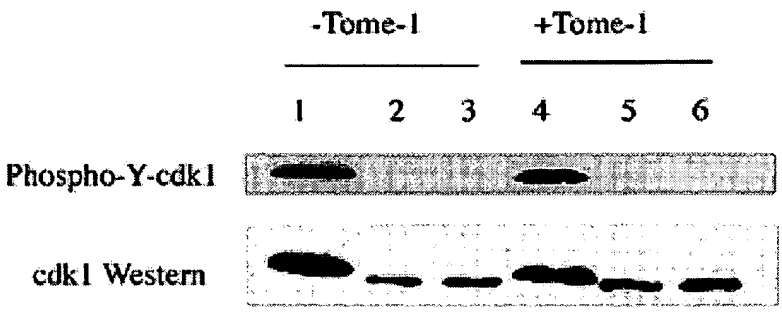


Figure 12

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 121 caagcaagtg gctcgagtag cagaccctcg ttcacctagt gctggcatcc agcgcactcc
 181 tattcaggta gagagctctc cacagccaag cctaccagca gaacagctga acggtctcaa
 241 acaggcacaa gacccagatc cccgctctcc tactcttggc attgcacgga cacccatgaa
 301 gatcagtggt ccagaccctc agtgctcact ggtgaaagag ctgagcgaag tattggagac
 361 agaagcgtcg gaatcgattt cctccccaga gcttgctctg ccccgggaaa cgcctttatt
 421 ttatgacctg gacctgtctt cagatcctca gttatcccct gaggaccagt tactgccttg
 481 gagccaggct gaactcgatc ccaaacaggt gtttaccaag gaggaagcca aacaatccgc
 541 agaaactata gctgccagcc agaactcaga caagccctcc agagacccag agactcccca
 601 gtcctcaggt tctaagcgca gcagacgaaa agcaaacagc aaggttctag ggaggtcccc
 661 tctcaccatc ctgcaggatg acaactcccc tgggaccttg acactacgac agggtaagcg
 721 gccttctgcc ctcagtgaga acgttaagga cctaaaggaa ggagtcgttc ttggaactgg
 781 aagatttctc aaagctggag gaggagcacg ggagccaaac caggaccacg acaaggaaaa
 841 tcagcatttt gccttgttgg agagctaggg ctgtgctgga gtcatcccca agggcaccaa
 901 agaaagccct gttctgattc ctctcaggca ccaactctgg tacttggaca tcgttctttt
 961 aaaatgtttt atgtgtttcc tgtatattaa agtagatgat tttaaatgat gctttaagaa
1021 gttagagcaa agctacaccg ggtcttgtgt gtatagaatg gcatcctagg ggcctgtgag
1081 acctggatag atctctctcc tgccacttct gagcctcctt tatgtagctt aagctttgat
1141 gtccccagag ctctgccttt ggccctcttc acttcttgtt tgggtttagc tattgcttac
1201 ctgcttgtaa tttccaggtc cccctctcga cataaacact caacgttagt tcccctaaaa
1261 taagattcat gatctttccc tcattgccta cgcctctccc tgtggctggg gaaaggtggt
1321 catctcctag ctactcaagc ctaagcctcg gctttgggca tcatattgaa catgacgtgt
1381 ctgtgaggtt gtcactaggg cctggtgatt atatattctt gtcgtc
```

Figure 13

```
   1 ccacgagctg ttgtgcatcc agaggtggaa ttggggcccg gcattccctc ctcgtcccgg
  61 gctggccctt gcccccaccc tgcaactcct ggttgagatg ggctcagcca agagcgtccc
 121 agtcacacca gcgcggcctc cgccgcacaa caagcatctg gctcgagtgg cggacccccg
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 241 cctaccagca ggggagcaac tggagggtct taaacatgcc caggactcag atccccgctc
 301 tcctactctt ggtattgcac ggacacctat gaagaccagc agtggagacc ccccaagccc
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 421 agagcctgtt ctgcccccag aggcaccttt atcttctgaa ttggacttgc ctctgggtac
 481 ccagttatct gttgaggaac agatgccacc ttggaaccag actgagttcc cctccaaaca
 541 ggtgttttcc aaggaggaag caagacagcc cacagaaacc cctgtggcca gccagagctc
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 961 tcaccccttc tttcccaggg atactgagga atggcttgtt ttcttagact cctcctcagc
1021 taccaaactg ggactcacag ctttattggg ctttctttgt gtcttgtgtg tttcttttat
1081 attaaaggaa gtaattttaa atgttacttt aaaaaggtaa aaaaaaaaaa aaaaaaaaa
```

Figure 14

```
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121 accctcgttc acctagtgct ggcatccagc gcactcctat tcaggtagag agctctccac
181 agccaagcct accagcagaa cagctgaacg gtctcaaaca ggcacaagac ccagatcccc
241 gctctcctac tcttggcatt gcacggacac ccatgaagat cagtggtcca gaccctcagt
301 gctcactggt gaaagagctg agcgaagtat tggagacaga agcgtcggaa tcgatttcct
361 ccccagagct tgctctgccc cgggaaacgc ctttatttta tgacctggac ctgtcttcag
421 atcctcagtt atcccctgag gaccagttac tgccttggag ccaggctgaa ctcgatccca
481 aacaggtgtt taccaaggag gaagccaaac aatccgcaga aactatagct gccagccaga
541 actcagacaa gccctccaga gacccagaga ctccccagtc ctcaggttct aagcgcagca
601 gacgaaaagc aaacagcaag gttctaggga ggtcccctct cacatcctgc agatgacact
661 cccctgggac ttgacctacg acaggtagcg gcctctgcct catgagacgt taagactaan
721 gaagatcgtc tgnactggag atctcagctg agagagccga gccacagaca cacagaatca
781 cttgctgtga actagtggcg attccagcca gagcttcatc tc
```

Figure 15